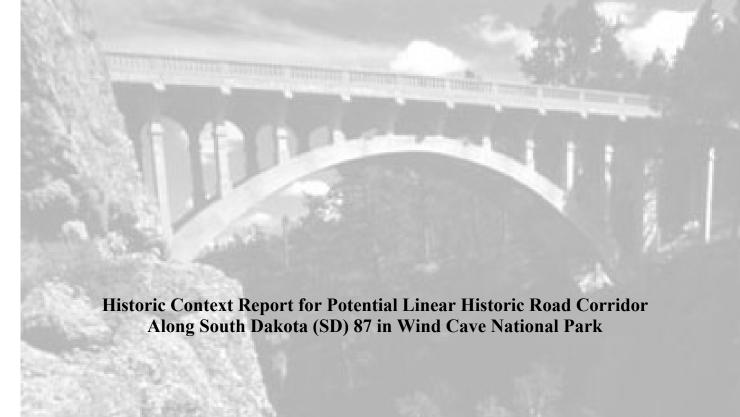
Historic Context Report for Potential Linear Historic Road Corridor Along South Dakota (SD) 87 in Wind Cave National Park



SD 87 and Reaves Gulch, Looking Southwest. Library of Congress

Prepared under contract to: Midwest Regional Office, National Park Service United States Department of the Interior

> Mark David Spence, PhD March 2011



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Introduction

This report provides background information and historic contexts for the 6.7 mile (10.8 k) section of South Dakota (SD) 87 that runs from the boundary of Wind Cave National Park and Custer State Park southward to the intersection of SD 87 and US 385. Built between ca. 1926 and 1930 by the South Dakota State Highway Commission, the U.S. Bureau of Public Roads, and the National Park Service, this stretch of SD 87 traversed portions of what was then the Harney National Forest and had its southern terminus at the original northern boundary of Wind Cave National Park. The highway was subsequently incorporated into the national park in 1946 when Wind Cave was expanded from 11,718 to 28,059 acres.

Traveling north from the Wind Cave National Park headquarters area, drivers reach the junction of US 385 and SD 87 after approximately 1.4 miles (2.25k). While US 385 continues in a northwesterly route toward Pringle, SD 87 heads almost due north. After .5 miles (.31k), the road passes over the Norbeck Dam then makes a sharp westerly turn and climbs toward the Beaver Creek Bridge. Listed on the National Register of Historic Places, the 225 feet (69m) long open spandrel reinforced concrete bridge spans a 115 feet (35m) deep gorge. It was built in 1929 and is the only structure of its kind in the Black Hills. After crossing the bridge the road ascends into the most rugged and heavily forested sections of the national park, and passes a number of vistas that overlook the rolling country to the east. Approximately 3 miles (4.8k) north of the junction with US 385 the road comes to the Pigtail Bridge, where travelers cross a short span then descend through a tight 270 degree counter-clockwise turn that loops under the bridge. This unique structure is also on the National Register of Historic Places. Completed by early 1930, it may have served as the prototype for similar bridges on the Iron Mountain Road in Custer State Park. From the Pigtail Bridge, SD 87 continues to descend toward Reaves Gulch where it then regains elevation as it passes through a mile-long ravine. The road then reaches more open grasslands, interspersed with forests and rocky ground, and passes along the west flank of Rankin Ridge. Approximately 5 miles (8 k) north of the US 385 junction, SD 87 passes the intersection to Rankin Ridge Road. Following level, mostly open terrain the road bends eastward then makes a sharp turn to the north where it crosses a cattle guard into Custer State Park.

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¹ There are no precise records on when any the four pigtail bridges were completed in the Black Hills. Because the stretch of SD 87 within Wind Cave National Park was finished in early 1930, a few months before the route of the Iron Mountain Road had been determined and more than two years before that road was finished, it is likely that the Pigtail Bridge in Wind Cave National Park was the first of its kind. See Western History Research, "National Park Service Rocky Mountain Regional Office Historic Buildings and Structures Inventory Form: Pig Tail Bridge, HS-98" (1993), 3; Historic American Engineering Record (HAER), National Park Service, U.S. Department of the Interior, "Pigtail Bridge," HAER No. SD-54 (2000), 3, 5-6; and Renewable Technologies, Inc., *Historic Bridges of South Dakota* (Pierre: South Dakota Department of Transportation, 1990), 4-5.



Figure 1: Map of Wind Cave National Park. SD 87 is boxed and highlighted in the upper left quadrant of the image. For more detail, see Map 2. [Source: National Park Service, Wind Cave National Park.]

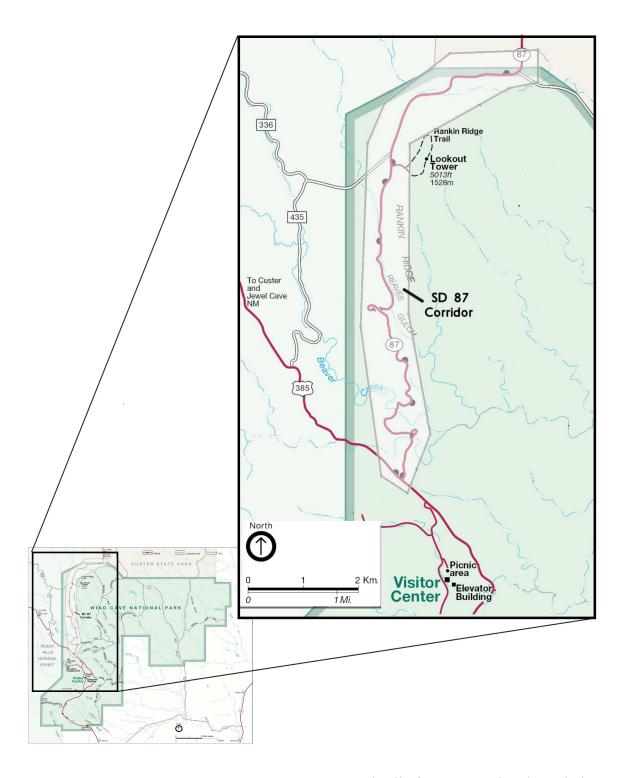


Figure 2: South Dakota Highway 87 (detail). Map detail of SD 87 running through the northwest section of Wind Cave National Park. [Source: National Park Service, Wind Cave National Park.]

The construction of this portion of SD 87 was originally intended to incorporate Wind Cave within a larger system of roads developed by the South Dakota State Highway Commission to facilitate automobile tourism in the Black Hills. These included the famous Needles Highway, which was constructed between 1921 and 1922, and the growing network of roads around the State Game Lodge in Custer State Park. At the time the route to Wind Cave was being laid out, preliminary plans were also underway for construction of the Iron Mountain Road across some of the highest portions of the Black Hills to Mount Rushmore National Memorial. While Mount Rushmore would eventually become the most visited site in the Black Hills, Wind Cave National Park was still the region's most popular tourist destination in the 1920s and early 1930s. As two links in a grand design that sought to create an integrated experience for auto tourists traveling from Wind Cave to the State Game Lodge, and up into the high points of the Hills, the Iron Mountain Road and the stretch of SD 87 that is now within Wind Cave National Park utilized common design elements. These included routes that followed the dramatic contours of the landscape, provided scenic vistas, and utilized distinctive bridgework that blended with and augmented elements of the natural landscape. One of the most striking design elements used on both roads are the heavy-timber pigtail bridges, which have since become signature features of the Black Hills and only exist on the Iron Mountain Road and the stretch of SD 87 within Wind Cave National Park.

Like the Needles Highway and the Iron Mountain Road, the portions of SD 87 that ran through Custer State Park and down to Wind Cave National Park had no utilitarian purpose beyond automobile tourism. They were not designed for the efficient movement of goods and people, they did not follow any pre-existing travel routes, and they did not connect or pass through any areas with even minimal residential or commercial development. Besides the tourist destinations of Wind Cave, Mount Rushmore, and a few points in between, the road itself was the attraction. As the historian Suzanne Julin notes, these roads were designed to create an experience that "combined vistas of sublime natural beauty with modern automobile technology and accompanying feelings of freedom, [exhilaration], and adventure." In this respect, SD 87 was part of an important new movement in transportation and recreation that shaped the Black Hills and redefined how Americans experienced western national parks and other scenic landscapes throughout the country. SD 87 would retain these qualities and experiences through the post World War II era as the scenic stretch of highway became a central focus of recreation and interpretation within the expanded national park.

The present study follows from a recommendation by the authors of the 2005 Wind Cave National Park Cultural Landscape Report for "a designated historic district running the length of SD 87" within Wind Cave National Park. The district boundaries should include the "terrain features and plant communities that define the spatial character of the road ... [as well as] important designed scenic views away from the roadway and views of the road features such as bridges." The authors further recommend:

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² Superintendent's Monthly Narrative Report, 17 July 1929.

³ Suzanne Julin, "'A Feeling Almost Beyond Description': Scenic Roads in South Dakota's Custer State Park, 1919-1932," in *The World Beyond the Windshield: Roads and Landscapes in the United States and Europe*, eds. Christof Mauch and Thomas Zeller (Athens, OH: Ohio University Press, 2008), 79-93.

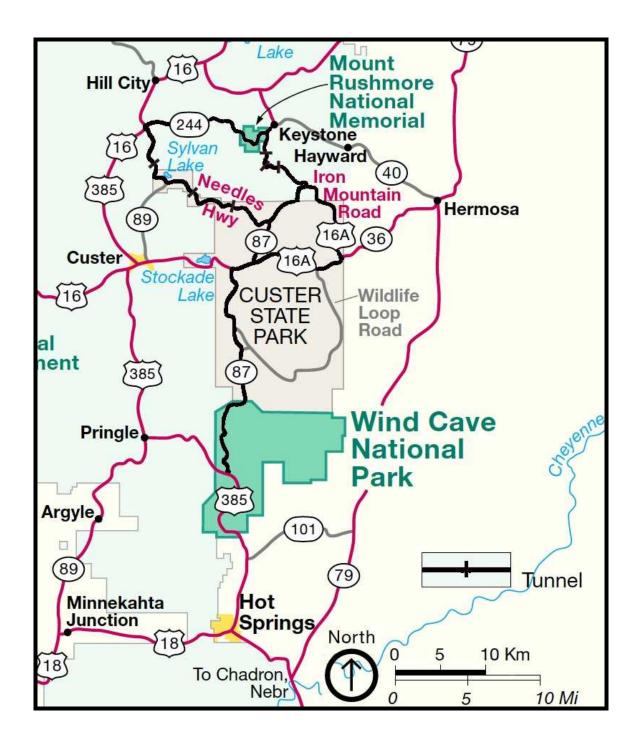


Figure 3: Southern Black Hills Area. Map shows Wind Cave National Park, Custer State Park, Mount Rushmore National Memorial, and connecting roads. [Source: National Park Service, Wind Cave National Park.]

Consideration should be given to incorporating the historic SD 87 corridor within a larger historic district including all historic scenic roads with the Black Hills that are related with and interconnected with Custer State Park, Mount Rushmore National Memorial, and Wind Cave NP. Placing the Wind Cave NP segment of SD 87 within such a historic district would allow for the evaluation of this corridor as part of a complete system versus [an] isolated district.⁴

While no such designation is currently being contemplated by the South Dakota State Historic Preservation Office, the current study supports this recommendation.⁵ Because this historic context report necessarily includes material related to the larger system of scenic roads in the central and southern Black Hills, it may in turn serve as a basis for a future historic context report on a much larger historic linear corridor.

Early Roads and the Wind Cave National Park Area

Covering 10,522.17 acres, the original land base of Wind Cave National Park was first "withdrawn from settlement, entry, sale, and other disposition, and set apart as a public park" on 9 January 1903. Generally framed by square boundaries of approximately four miles on each side, the new national park was centered on Wind Cave and the tourist developments that had occurred there over the previous decade. The cave site and the new park's headquarters were adjacent to the road that connected Wind Cave with the towns of Hot Springs and Custer. Because most visitors came by coach or wagon from Hot Springs, and returned to that resort community the same day, the southern stretch of road that followed much the same route as today's U.S. Highway 385 was better maintained and more frequently used. Tourists from the north, or those who arrived from Hot Springs but wished to carry on a more extensive tour of the Black Hills, invariably used the Pringle Road, which ran along much the same route that US 385 follows as it leaves the national park. With a rail station in Pringle, and from there a relatively level road to Custer and the northern Hills, this westerly route from Wind Cave also carried most of the wagon-based commercial traffic that moved between the central Black Hills and the towns of Hot Springs and Buffalo Gap.

The conditions of the route to the north and west of Wind Cave are nicely detailed by the nineteenth-century travel writer Antoinette Ogden. After several days of taking the waters at Hot Springs, Ogden and her party turned their "horses' heads toward Custer. We drive under a sky that seems to twinkle with electric flashes," she wrote, "and over a rolling prairie covered with yellow buffalo grass. At the end of two hours we reach Wind Cave, where we halt to explore its recesses." Following a five-hour tour of the cave, the party returned to the "old Custer stage road" which led "up through a region so totally

⁴ John Milner Associates et al, *Wind Cave National Park: Cultural Landscape Report* (Omaha: National Park Service, Midwest Region, 2005), 4-49.

⁵ E-mail correspondence from Chris. B. Nelson, South Dakota Historic Preservation Specialist, 23 August 2010.

⁶ U.S. Statutes at Large, Vol. 32, Part 1, Chap. 63, "An Act To set apart certain lands in the State of South Dakota as a public park, to be known as the Wind Cave National Park," Public Act no. 16: 765.

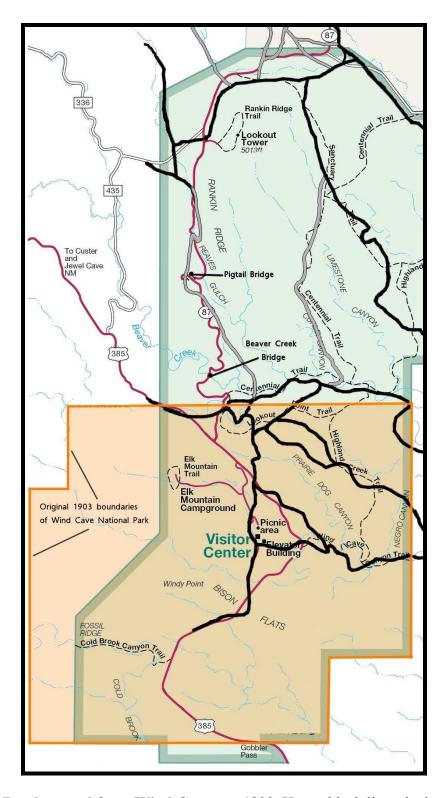


Figure 4: Roads to and from Wind Cave, ca. 1899. Heavy black lines depict roads used in the late nineteenth and early twentieth centuries. Gray lines trace wagon routes running north of the Wind Cave area. For more detail of the route through Reaves Gulch see Figure 5. [Source: National Park Service, Wind Cave National Park; U.S. Geological Survey Map for the Hermosa Quadrangle, 1899.]

different from that which we have left behind us. We drive through an arroyo inclosed [sic] between rugged gray palisades surmounted by pines which are extremely tall and rich in color." This route leads to Pringle, then north to Custer, which subsequently became the base for her party's ventures up to the Needles and Harney Peak.⁷

As she notes in her travelogue, Ogden headed west from Wind Cave to proceed into the Hills along what she and her party described as a continuation of the same road they had taken up from Hot Springs. They did not take the road that ran directly north from Wind Cave. Though it also headed toward Custer, this road was likely used for access to a few timber and quarrying sites or for local commercial traffic. Once it reached Beaver Creek, the road became a rough track that ran across several steep drainages. The route never received much use since its entire length was contained within an area that had been incorporated into the Black Hills Forest Reserve in 1897. The chance of any improvement or expanded use this track might have received only diminished as new settlements were curtailed and access to forest resources became more closely monitored by the federal government. 8 Though it continued to serve the small communities and settlements that were scattered across the upland areas to the south and east of Custer, the track never received the level of use that better graded and more frequently used routes did to the east. These wagon roads lay mostly or entirely outside the boundaries of the Forest Reserve, connecting small settlements and ranches to the north and east of the Wind Cave area with Buffalo Gap, Custer and, by way of an old established route through the national park along the Beaver Creek drainage, Pringle.

From the period of the Black Hills Gold Rush until the 1910s, the modes of transportation used within the Wind Cave area remained largely unchanged. Though paths, tracks, and roads proliferated as population increased, transportation patterns also remained fairly constant. Both within the original national park boundaries as well as in the areas added to the park in 1946, local traffic connected small settlements with commercial centers that were in-turn linked to national markets. Prior to the arrival of the railroad in the early 1890s, these national connections were made by freighting routes that ran through Buffalo Gap to the east of Wind Cave and through Pringle and Custer to the west. The development of Hot Springs, which was founded on leisure-based tourism, and the construction of two rail lines to the city in the early 1890s brought a new element to the Black Hills economy and more frequent connections to the rest of the United States. While these changes also contributed directly to the development of Wind Cave, they did not substantially alter commerce or travel in the general area of the current national park boundaries. Routes between Hot Springs and the interior Hills were improved, and increasingly traveled by tourists, but the mode and course of travel was not altered in any significant way. Moreover, the new tourist traffic remained limited to main roads and had little or no effect on the more remote transportation networks that traced the patterns of social and economic life in the southeastern Black Hills.

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⁷ Antoinette Ogden, "A Drive Through the Black Hills," *Atlantic Monthly* (April 1892): 450-451.

⁸ Henry Solon Graves, *The Black Hills Forest Reserve* (Washington, D.C.: Government Printing Office, 1899), 82.

The rise of the automobile in the 1910s marked the beginning of a significant change in all of these arrangements. Throughout the United States private ownership of cars created new markets and new transportation networks, and transformed everything from how Americans designed homes and neighborhoods, the ways they scheduled travel, measured time and distance, and even conceived of the natural world. In this last respect, recreational use of automobiles increasingly defined Nature, with a capital "N," as a distinct place separate from where people lived or worked. Even as the automobile created a conceptual distance from the places that people called "natural" or "wild," it also became the vehicle for bringing Americans closer to Nature. With no sense of irony, a 1917 issue of Sunset magazine celebrated driving to and driving through a particularly scenic area as the best means for experiencing "an elemental contact with the reality of nature." These ideas about the automobile and the natural world would profoundly shape the physical and commercial landscape of the Black Hills, and directly inspired the routing and construction of the region's duly famous scenic byways. The rise of automobility also reduced the number of roads cutting through the southern Black Hills as networks of old wagon routes were abandoned in favor of the new roads that brought people into and out of the region.¹⁰

The latter trend shaped travel within the original and current boundaries of Wind Cave National Park in two ways. First, residents and local travelers increasingly took to using publicly funded and built roadways. Second, improving and maintaining established roads to better serve the needs and expectations of tourists became an ongoing concern for national park superintendents. The construction of SD 87 fit squarely within the program of creating brand new routes expressly for the use of motor tourists. The road neither improved nor replaced a preexisting route of travel, and had no particular purpose except to move tourists to and through Nature. In that respect the road itself was a carefully engineered destination; one that was designed to integrate the act of driving with the experience of visiting established or planned tourist attractions.

Automobile Tourism and the Black Hills

To fully appreciate the historical significance of SD 87 requires an understanding of tourism development in the Black Hills in the 1920s and how it reflects broader trends related to automobility, outdoor recreation, park development, and nature appreciation. All of these developments stemmed from the tremendous increase in automobile ownership that occurred in the United States during the 1920s. In 1900, when Wind Cave was first being considered as a possible national park, there were only 8,000 registered automobiles in the United States. By 1910 the number had jumped to 350,000, but that still represented less than four-tenths of one percent of the entire population. As mass production lowered the costs of automobiles through the 1910s, and a growing middle class could purchase cars that were not simply mechanical curiosities for the wealthy, car

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⁹ Quoted in Earl S. Pomeroy, *In Search of the Golden West: The Tourist in Western America* (New York: Alfred E. Knopf. 1957), 147.

¹⁰ The reduction in the number of travel routes in the southeastern Black Hills is revealed in maps from the first decades of the twentieth century.

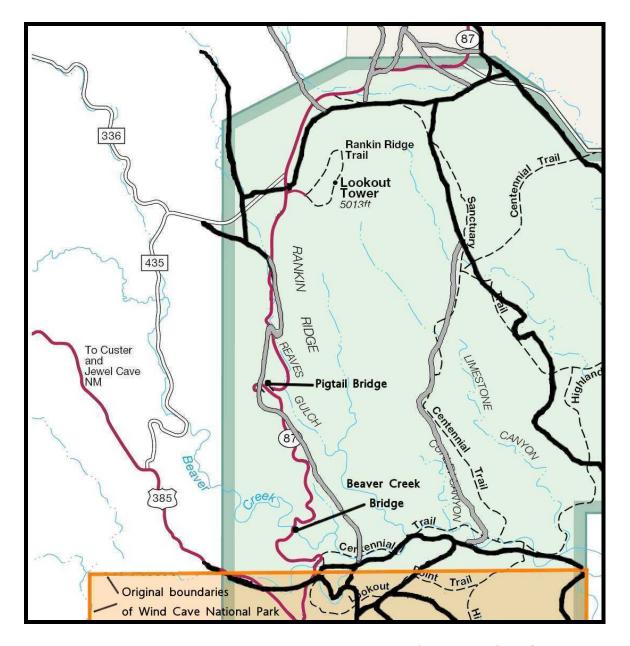


Figure 5: Route of SD 87 Compared with Older Routes. The construction of SD 87 did not replace a pre-existing route, but instead blazed a new path designed to bring recreational motorists through a scenic landscape.

ownership began to soar. By 1920 the number of cars and trucks in America had increased to 7.5 million, and private ownership of motor vehicles reached seven percent of all households. By the end of the decade, when SD 87 was constructed between Wind Cave National Park and Custer State Park, those numbers had grown to 23 million and 20 percent.¹¹

As the United States became a nation of car owners, middle-class Americans also developed a passion for leisure and recreation. These trends were not necessarily separate or distinct. A generally higher standard of living not only made car ownership possible, it also provided more opportunities for enjoying the dual benefits of higher wages and reduced working hours. As Robert and Helen Lynd observed in *Middletown: A Study in Modern American Culture* (1929), "ownership of an automobile" had become "an accepted essential of normal living," and a key part of that new "normal" was "the 'vacation habit." The automobile, they observed, was "extending the radius of those who are allowed vacations with pay and putting short trips within reach of some for whom such vacations are still 'not in the dictionary." In short, the automobile was both enlarging and "remaking leisure."

Liberated from work cares, and excited by the prospect of driving anywhere on their own schedules, Americans jumped in their cars and headed for the hills, fields and forests beyond the urban centers where they worked and lived. These machine-based activities would have a profound effect on how Americans appreciated the natural world, which they increasingly understood in a recreational context. Such experiences also had a tremendous impact on the places where they occurred. An entire industry grew up around automobile tourism, from new roads and roadside attractions to the mass production of outdoor recreational equipment that provided autocampers with a "Smooth Way to Rough It." Once tourists arrived at their destination, they expected to play in the outdoors but also enjoy the comforts of the world from which they had temporarily escaped. This required a whole new infrastructure, from developed recreational facilities like campgrounds, lodges and lakeshores, to new access roads with their necessary accompaniment of culverts, ditches, road cuts, timber felling and bridgework.

Remaking natural areas to accommodate the desires of vacationers who wished to experience "elemental contact with the reality of nature" was not an aberration. As Chris B. Nelson notes in an article on auto tourism in the Black Hills, "[t]he automobile changed Americans in almost every way a people can be changed. It changed where we went, how we got there, and what we took with us. The phenomenon of the automobile influenced and would eventually come to dictate much of the cultural and architectural

¹³ Sutter, *Driven Wild*, 33.

¹¹ Paul Sutter, *Driven Wild: How the Fight against Automobiles Launched the Modern Wilderness Movement* (Seattle: University of Washington Press, 2002), 24.

¹² Robert S. Lynd and Helen Merrell Lynd, *Middletown: A Study in American Culture* (New York: Harcourt, Brace & Company, Inc., 1929), 251. Also cited in Sutter, *Driven Wild*, 24.

landscape of everyday America." ¹⁴ The great outdoors, which was a primary destination of an increasingly affluent and mobile populace, could hardly have stood outside these larger transformations. On the contrary, it stood at the very center.

Because many of the sites that tourists sought out in the 1920s were on western public lands, the National Park Service worked to attract and accommodate as many of these visitors as possible. In part this was simply a matter of meeting public demand. Through advertising campaigns and new park facilities, Director Stephen Mather also sought to cultivate a large base of users and supporters, whose numbers and concerns would justify increased agency budgets. In early 1928, after serving ten years as the Superintendent of Wind Cave National Park, Roy Brazell captured all of these concerns about meeting the expectations of tourists.

A better type of tourist is coming to the Black Hills. He demands the best and is prepared to pay for it. He expects in a National Park not only the focus of scenic grandeur but also insists that the comforts of the city be at his disposal.... He is in the majority. To him we must cater. ¹⁵

Brazell's concern about catering to tourists neatly illustrates a basic focus of the National Park Service through the 1920s, but his comments were actually part of an ongoing complaint about the inadequacies of Wind Cave National Park. For years, Brazell had regularly lamented the poor quality of the roads and facilities in the national park. Chronic underfunding barely covered simple maintenance of aging structures within and above the cave, and only allowed the most rudimentary improvements to park roads. These circumstances were only exacerbated by the enormous growth in park visitation.

In 1916, when the National Park Service was first established, Wind Cave received an estimated 9,000 visitors. By 1928 that number had increased more than eleven fold to 100,309. Not all of these numbers included visits to the cave, but they did account for visitors who drove past or stopped to view the wildlife in the Wind Cave National Game Preserve. As the numbers of visitors to the national park and the game preserve increased, so too did the number of long-distance travelers arriving in private vehicles. In the early 1910s most visitors arrived in hired motor coaches from Hot Springs. By 1923, however, 92% of park visitors arrived in a private automobile. The following year that number reached 96%, and rose toward nearly 100% by the end of the decade. As the number of these "better type of tourist[s]" increased, however, Brazell

¹⁴ Chris B. Nelson, "Life Along the Road: The Tourist Camp in South Dakota." *South Dakota History* 35, No. 4 (Winter 2005): 315.

¹⁵ Historic American Engineering Record (HAER), National Park Service, U.S. Department of the Interior, "Wind Cave Roads & Bridges," HAER No. SD-55 (2000), 26.

¹⁶ Barbara Beving Long, *Historic Contexts and National Register Guidelines: Wind Cave National Park* (Cresco, IA: Four Mile Research Co., 1992), 40.

despaired that "Wind Cave National Park can not favorably impress that type of tourist ",17

For a model of how Wind Cave's roads and facilities should be, Brazell only needed to look north toward Custer State Park. The recently built State Game Lodge, for instance, certainly outclassed any of the visitor facilities in Wind Cave. However, it was the relative quality of the two parks' road systems that proved the matter of most importance to Brazell and the tourists he felt obliged to "do everything possible to make ... feel welcome and at home in [their] National Park." Instead of making them feel at home, however, Brazell reported that he and his staff bore "a lot of criticism by the tourists" for a "park road [that looked] like a great trail" Much of this criticism was directly from visitors who had come to Wind Cave after visiting Custer State Park. As Brazell commiserated to Director Arno Cammerer in 1922, "[t]he entire road in the State Park is in excellent condition and visitors make much of the contrast between roads in this, a long-established National Park and the recently created State Park."²⁰

Peter S. Norbeck and the Development of Black Hills Roads

The standards by which tourists evaluated their experiences in Wind Cave in the 1920s had largely been established through the efforts of Peter S. Norbeck. Through his long career in politics, in which he served as a State Senator (1909-1915), Lieutenant Governor (1915-1917), Governor (1917-1921), and U.S. Senator (1921-1936), Norbeck always maintained a classic. Progressive Era approach to what might be described as environmental protection; namely, careful management of natural resources, the preservation of especially scenic areas, and allowance for public enjoyment of such places. Because these were viewed as matters of vital public interest, the creation and management of parks was deemed a necessary responsibility of government. Norbeck also viewed economic development as an important component of public lands management. Toward these ends, "Norbeck used his popularity, his political skills, and his policymaking power to promote the construction of roads in Custer State Park that would tempt motoring travelers" to come and spend their money in the Black Hills.²¹

Norbeck's political career essentially spanned the history of Custer State Park's creation, expansion and development. While a State Senator, he was instrumental in the establishment of Custer State Forest in 1912 and the Custer Game Preserve in 1913. These subsequently became the basis for the creation of Custer State Park in 1919, which occurred during his term as Governor, and Norbeck remained an active member of the Custer State Park Board during his time in the U.S. Senate. No subject or place, it seems, gave him greater joy. As he once told his friend and political protégé Francis H. Case, he

¹⁷ Roy Brazell, *Superintendent's Annual Report for 1927*, 26. ¹⁸ HAER, "Wind Cave Roads & Bridges," 19.

¹⁹ Brazell to Director, 4 February 1928, F Ref 1914 B2, Folder 3 "Roads General," Wind Cave National Park Archives.

²⁰ Ihid.

²¹ Julin, "'A Feeling Almost Beyond Description," 81-82. This section closely follows Julin's argument.

hoped to be remembered more as an artist than a senator. Norbeck's special medium, as he noted on another occasion, was "scenic design" in Custer State Park. Politics was his profession, but it was also the means for making his personal passions into reality.

Norbeck's aesthetic centered on the automobile, and his primary instrument of design was the roadway. He first saw the Black Hills in 1905, when he was part of a group of three men to first drive a car across the rough tracks of western South Dakota. While this started a lifelong love affair with the Black Hills, it also caused Norbeck to advocate for "good roads." National organizations like the Good Roads Association lobbied public officials to fund, build, maintain, and improve roads to increase automobile travel. The primary purpose of such a movement was to encourage economic growth and development by making the use of cars and trucks more practical and convenient. In the western United States, the push for creating long distance travel routes for automobiles also reflected a desire to promote tourism. The Twin City-Aberdeen-Yellowstone Park Trail Association in 1913, for instance, was formed by an array of business organizations and town boosters to "promote and aid in constructing a highway from" Minneapolis-St. Paul, across South Dakota and Montana, to Yellowstone National Park. 22 Norbeck certainly supported such an endeavor, since roads that transported tourists to the Black Hills were crucial to his vision for the region, but he wanted to build roads that were experiences and destinations in and of themselves.

During his term as Governor, Norbeck secured generous appropriations for the State Highway Commission to build highways throughout the state. While these efforts won him strong supporters in the Highway Commission, they also garnered him certain favors. Norbeck made certain that substantial funds were directed toward Custer State Park, and that the Highway Commission would defer to the Custer State Park Board in matters related to the design and engineering of park roads. The result was a sort of semiindependent highway system with Norbeck as the chief planner. Enjoying considerable fiscal and political freedom, Norbeck pursued his objectives with complete "faith in his own judgement" and a pronounced disdain for "rigid adherence to rules and ... standard engineering practices."²³ As Suzanne Julin notes, Norbeck frequently disagreed with highway engineers about the best way to route or build a particular stretch of road, but "his political power usually guaranteed him the freedom to shape the design according to his own goals. For Norbeck and those loyal to him, the appeal of the roads and the emotional impacts they had on motorists took precedence over modern standards of highway construction and sophisticated use of technology."24

The first great challenge and triumph of Norbeck's vision was the Needles Highway, a fourteen mile road that climbed up through the Cathedral Spires region of the Black Hills. Along with Scovel Johnson, a civil engineer who worked for the Highway Commission and Custer State Park, and the park gamekeeper Cecil C. Gideon, Norbeck scouted a route in the summer of 1919. The roadway they established broke almost every

²² Albert Shaw, ed., *The American Review of Reviews*, Vol. XLVIII, July-December (New York: The Review of Reviews Company, 1913), 189.

²³ Julin, "'A Feeling Almost Beyond Description," 83. ²⁴ *Ibid*.

rule of highway construction. Grades of up to 22 percent far exceeded the maximum standard of 7 percent used elsewhere in the state, sharp turning radii and a generally crooked routing violated basic concerns about speed and efficiency, and the general lack of road shoulders in forested areas and guard rails along scenic vantages caused highway engineers to complain about safety. Norbeck simply retorted with a reminder about the special status of park roads and the separate nature of the project: "Remember, this is inside the Park, not outside the Park." Working with a large budget and little interference, Johnson was able to complete all of the tunnels and grade the entire road by the fall of 1921. When it was surfaced the following year, the Needles Highway was heralded as a spectacular achievement. The road not only brought tourists into parts of the Hills that had hardly ever been visited, "it took them into the Needles, wound around the formations, and passed through tunnels painstakingly blasted out of ... the towering granite outcroppings.... The tunnels, the twisting road, the numerous switchbacks, and the sharp drop-offs provided drivers with an exhilarating experience." Through vision and careful engineering, the road and the Needles had become one and the same destination.²⁶

The Needles Highway ultimately set in motion the movement to establish Mount Rushmore National Memorial, which in turn inspired the construction of the Iron Mountain Road. Not long after making his own passage along the Needles Highway, Doane Robinson, a writer, booster, and secretary of the State Historical Society, called for an artistic reengineering of some of the Needles themselves. With Norbeck's tacit support, in 1924 Robinson proposed carving some of the spires into giant granite statues depicting heroic figures of the American West. Within a few years this idea morphed into Gutzon Borglum's vision for Mount Rushmore, which President Calvin Coolidge formally dedicated on 10 August 1927 during his extended summer vacation in Custer State Park. The frequent press reports on Coolidge's activities in the Black Hills brought a flood of new tourists to the Black Hills, and the plans for Mount Rushmore promised to create a new destination in the Black Hills of great national significance. While the Memorial would be accessible by car from Rapid City, Norbeck also saw an opportunity to create another spectacular driving experience from Custer State Park.

In early May 1930, during one of his many visits back to South Dakota and the Black Hills, Senator Norbeck set off with a small party on a brief excursion through the Hills to "settle on a very scenic route where the great point of Attraction is Rushmore." The result would be another feat of scenic engineering that took a little more than two years to complete. The 16-mile Iron Mountain Road incorporated many of the same design features that had been used on the Needles Highway, including tight curves, steep grades, winding routes through forested and rocky areas, and numerous scenic vistas. The road also included narrow tunnels that framed vistas of Mount Rushmore, sections of divided highway with separate narrow lanes running through dense forest, and three pigtail bridges designed by Cecil Gideon. Defying all the expectations of highway

²⁵ This particular quote relates to a disagreement over construction on the Iron Mountain Road. Norbeck to Kenneth Scurr, 18 April 1932; quoted in *Ibid.*, 84.

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²⁶ *Ibid.*, 84-87; quote from p. 86.

²⁷ Norbeck to Julian Blount, 6 May 1930; quoted in *Ibid.*, 88.

construction, Iron Mountain Road became a motor pilgrimage to a national shrine that was as much an amusement park ride as a passage through spectacular mountain scenery. The overall effect of driving the road was both delirious and delightful, but ultimately sublime.

For Norbeck and his collaborators, the goal was always to integrate the automobile with the landscape in a way that created a whole new kind of experience. The automobile might bring someone to a place where they encountered the "reality of nature," but driving through nature could bring that experience to whole new realms. Through careful design and engineering that blended features of the road with the surrounding landscape, that opened rather than obscured views, modern technology and wild nature became one complete experience. It was not that artifice completed or enhanced Nature, or that following natural contours and incorporating local stone and timber in the more conspicuous design elements of a road or bridge somehow naturalized or improved modern technology. Rather, as the historian David Louter notes, the automobile was considered an "enabling technology" that allowed wild landscapes to be understood in new and fuller ways. The result was a "windshield wilderness," to use Louter's term, "where the relationship between automobiles and nature seemed to be mutually beneficial" and the experience of both together was thrilling beyond expression.²⁸

Building SD 87

Norbeck did not invent the design principles that were used in the Black Hills. He was likely inspired by reports and images of the Columbia River Highway that ran along the Columbia River Gorge in Oregon. Built between 1913 and 1922, the highway established a road link between Portland and communities east of the Cascade Mountains, but it was primarily a scenic roadway for daylong excursions to waterfalls and scenic overlooks. The National Park Service would also develop scenic roadways in the 1920s and 1930s, most notably at Mount Rainier and Glacier National Parks. The roads in the Black Hills were partly inspired by these other projects, and all of them reflected the same convergence of automobile tourism and outdoor recreation that shaped the United States in the years between World War I and World War II. Nevertheless, Norbeck's efforts resulted in singular achievements that brought national and international attention to the Black Hills, and created the template for the region's car (and motorcycle) based tourist economy. He carried this vision to Wind Cave with the construction of SD 87, and effectively linked the national park with the rest of the rapidly developing tourist industry of the Black Hills.

Building the road connection between Custer State Park and Wind Cave National Park essentially occurred in four stages. The first concerned the grading and construction of the southern extension from the Custer State Park system down through Reaves Gulch. The second occurred just within the northern boundary of the national park, and involved

²⁸ David Louter, *Windshield Wilderness: Cars, Roads, and Nature in Washington's National Parks* (Seattle: University of Washington Press, 2006), 165-166.

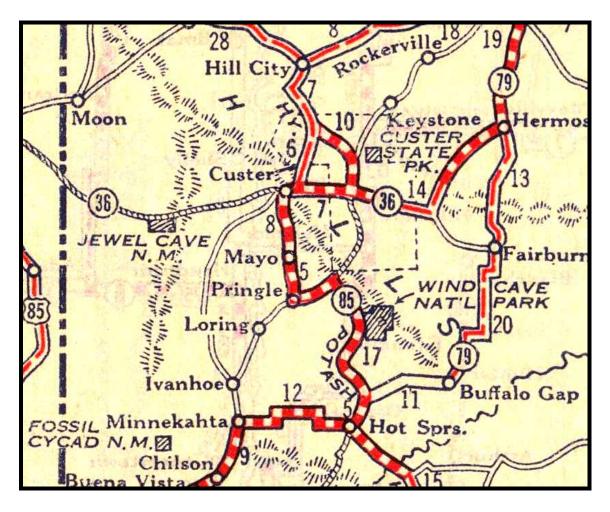


Figure 6: (Detail) Showing General Routing of SD 87, ca. 1927. This 1927 map shows the approximate route of SD 87, a year after its initial designation as a South Dakota Highway 81 and a year before its construction. [Source: *Rand McNally Junior Auto Road Map of South Dakota* (Chicago, Ill.: Rand McNally Co., 1927).]

the rerouting of the section of road adjacent to the Wind Cave National Game Preserve headquarters so that it would align with the new route from the state park. The third centered on the construction of the Norbeck Dam, which also served as the road passage over Cold Springs Creek. The final component of the project involved the construction of the Beaver Creek Bridge and the Pigtail Bridge.

Even before it was built, the basic route for the section of SD 87 that currently runs through Wind Cave National Park was included in the state highway system in 1926. Along with the Needles Highway and the stretch of road that runs along the western side of Custer State Park, the entire route from Sylvan Lake to the northern boundary of Wind Cave National Park was designated as South Dakota Highway 81 in 1926. Actual construction on the stretch to the south of the state park had already begun by this time with the widening and grading of existing road sections that were also part of State Highway 83, which ran from the southern boundary of Custer State Park along what is now County Road 391 toward Pringle. In 1928, the State Highway Commission built the stretch of highway through Reaves Gulch, and it was here where Norbeck's principles of "scenic design" first came into play. Eschewing the route of the older wagon track on the ridgeline to the west, and easier grades of local roadways to the east, the new highway was instead routed down through the more dramatic and challenging terrain.²⁹

Progress at the southern terminus of SD 81 was slowed in part because it involved multiple parties and agencies working with different standards. In 1928, as the State Highway Commission worked on the road through Reaves Gulch, Wind Cave embarked on a long overdue program to improve roads in the national park with funds from the National Park Service and the Bureau of Public Roads. The U.S. Biological Survey also undertook a major project for the game preserve that involved building a dam on Cold Springs Creek. The 34-foot high earthen structure was designed to supply water for the game preserve and national park, and provide a recreational feature along the new highway. Since the top of the dam would also become part of the highway, pre-existing roads between the national park and dam had to be re-routed. All of this work came with the backing of Senator Norbeck, who appropriated the funds and was actively involved in the overall design of the dam and roads. Disagreements between the National Park Service and the U.S. Biological Survey over the construction of the dam and the routing of roads, as well as the different road surface materials used by the State Highway Commission, the Bureau of Public Roads and the national park, slowed the project and caused a good deal of consternation on all sides. Nevertheless, the road improvements within the national park, the dam, and the new sections of road between the national park and the dam, were all completed in 1929.³⁰

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²⁹ HAER, "Pigtail Bridge," 6-7; Horace M. Albright to Senator Norbeck, 8 October 1929, F Ref 1914 B2, Folder 3 "Roads General," Wind Cave National Park Archives; Anton Snyder, *Superintendent's Annual Report for 1928*; C. W. Robertson, "Highways in Custer State Park." *The Black Hills Engineer* 18, No. 2 (March 1930): 133-34; *Northern Plains Highways*, "South Dakota State Highway 81," "South Dakota State Highway 83," and "South Dakota State Highway 85"

http://www.northernplainshighways.org/sdakota/sd61-100.html#SD-87 (accessed 28 November 2010). Albright to Norbeck, 29 June 1928, RG 79, CCF 1925-36, File 630, "Roads, WCNP, 1928," National Archives, College Park, MD; HAER, "Wind Cave Roads & Bridges," 27-29; Suzanne Barta Julin, "Public Enterprise: Politics, Policy, and Tourism Development in the Black Hills through 1941" (Ph.D. diss.,

The Beaver Creek Bridge

The Beaver Creek Bridge is just .75 miles (1.2k) from the Norbeck Dam and work there could have begun in 1928, but its construction and completion was also delayed for a year. The problem did not stem from the varying standards or actions of different agencies, since the bridge and the approach roads from the north and south were entirely under the purview of the State Highway Commission. Rather, as Superintendent Snyder alluded in his *Annual Report for 1928*, the delay came from some "controversy over a 125 feet steel open bridge." Such a utilitarian and economical structure would have served well to bridge Beaver Creek Canyon, but it violated Norbeck's aesthetic conception of the highway. A former State Highway engineer who worked with Norbeck on a number of projects later described what would have been the standard approach to the site. "Normally we would have crossed the canyon at its head with about a triple ten by ten Box Culvert. However Senator Norbeck insisted that we turn the road south along the river of the Canyon and build the spectacular arch.... It cost much more than a normal crossing but still is an attractive scene on the Highway." ³²

The construction of open-spandrel concrete arch bridges was fairly common in urban areas during the first decades of the twentieth century, especially for long river crossings. Because the graceful structures were so complicated to design and construct, especially the falsework and forms that supported the poured concrete, they were rare in remote settings like the Beaver Creek Canyon where there was no road access and the canyon floor was more than 100 feet (33m) from the bridge decking.³³ It is likely that Norbeck was familiar with smaller bridges of the same type that had been built in the Columbia Gorge a few years earlier, and no doubt appreciated the way they could seem like an organic part of the landscape as well as provide a constructed focal point that framed an especially scenic view. 34 The Beaver Creek Bridge also had many of the special hallmarks of Norbeck's vision for the Black Hills. Drivers from the south were routed to a well-placed overlook that offered a distant view of the bridge set within the narrow gorge, and both the northern and southern abutments had gentle "S" curves that gave the bridge the illusion of a sinuous shape. The curves also presented off-set angles that offered glancing views of the bridge and canyon just at the point of crossing. The blend of dizzy surprise and scenic grandeur matched Norbeck's best efforts in the Black Hills, and instantly received high praise. As Custer State Park Superintendent Charles

Washington State University, 2001), 166-67; John Milner Associates et al, *Wind Cave National Park:* Cultural Landscape Report, 2-76.

³¹ Snyder, Superintendent's Annual Report for 1928

³² Quote is from Kenneth R. Scurr, Former South Dakota Bridge Engineer, interviewed by Prof. Emory Johnson, South Dakota State University, *Missouri River Bridges of South Dakota, 1920 to 1980: An Oral History Project* http://www.Sddot.Com/Pe/Bridge/Docs/Missouri_River_Bridges_1920.Pdf (accessed 3 December 2010). Also see J. Harper Hamilton, "The Beaver Creek Bridge," *The Black Hills Engineer* 18, no. 1 (1930): 136-141; Historic American Engineering Record (HAER), National Park Service, U.S. Department of the Interior, "Beaver Creek Bridge," HAER No. SD-53 (2000), 4-7.

³³ Donald C. Jackson, *Great American Bridges and Dams* (Washington, D.C.: Preservation Press, 1988), 21-23.

³⁴ Dwight A. Smith, *Columbia River Highway Historic District: Nomination of the Old Columbia River Highway in the Columbia Gorge to the National Register of Historic Places* (Salem, OR: Oregon Dept. of Transportation, 1984), 4, 9, *13*.

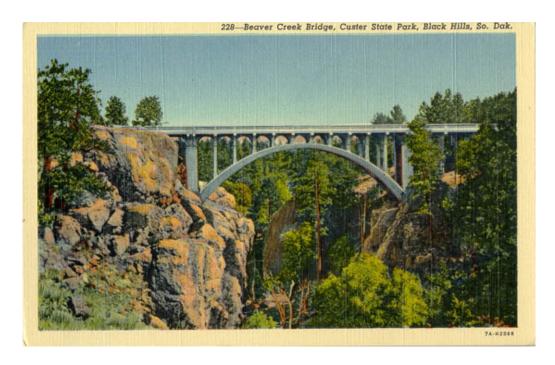


Figure 7: Beaver Creek Bridge, ca. 1937. The caption on this postcard seems to echo Senator Norbeck's expectation that SD 87, and perhaps all of Wind Cave National Park, would become part of Custer State Park. [Source: Author's personal collection.]



Figure 8: Beaver Creek Bridge Approaches, Looking South. [Source: Historic American Engineering Record (HAER), National Park Service, U.S. Department of the Interior, "Beaver Creek Bridge," HAER No. SD-53 (2000), Image 52-3.]

Robertson noted in a March 1930 article on "Highways in Custer State Park," the bridge was already "conceded to be the most beautiful structure in the State." 35

The Pigtail Bridge

Like the Beaver Creek Bridge and the road through Reaves Gulch, the Pigtail Bridge was also constructed by the State Highway Commission and is another signature feature of SD 87. Superintendent Robinson focused on all three in his article, and noted how "the pig-tail bridge and the scenic windings of Reaves gulch added to the interest of the route" from Custer State Park to Wind Cave National Park. The inclusion of this stretch of SD 87 in an article about roads in the state park might seem odd. The State Highway Commission's application of Norbeck's "scenic design" principles also poses a riddle when one recalls the Senator's sharp distinction between "inside the Park" and "outside the Park." These matters make perfect sense, however, when considering Norbeck's basic assumption about Wind Cave National Park. Even when the southern extension of SD 87 was just a line on a map, Norbeck was working toward the incorporation of the national park into Custer State Park. While he helped secure federal funds for the improvement of roads and facilities in Wind Cave, he did so in the belief that the National Park Service needed to upgrade its holding to the same standards as Custer State Park before the two could be combined. By 1930, with SD 87 finished from the Norbeck Dam to the state park boundary, he considered his long-term plan almost complete.³⁶ The knot that seemed to stitch it all together, and linked Wind Cave with the state park, Iron Mountain Road, and Mount Rushmore, was the Pigtail Bridge in Reaves Gulch.

Though it was not as picturesque as the Beaver Creek Bridge, which marked a highpoint of Norbeck's vision for the Black Hills and automobile tourism, the Pigtail Bridge is the element that most fully integrated the southern stretch of SD 87 with the road system in Custer State Park. As Robertson's essay on "Custer State Park Highways" indicates, the bridge was likely finished in 1929 or early 1930. Construction probably began after the route through Reaves Gulch had been graded so that logs, stone, and milled lumber could be transported down from Custer State Park. Dates are uncertain in part because Cecil Gideon, who invented the pigtail design and oversaw the State Highway Commission's construction of the bridge, was not a professionally trained engineer and did not keep specific notes on his projects. He was highly trusted by Norbeck, however, and the two men worked closely on almost all aspects of road design and building in the Black Hills. Since correspondence between Gideon and Norbeck suggests that the pigtail bridges on Iron Mountain Road were completed in 1932, the bridge currently within Wind Cave National Park was likely the first of its kind.³⁷

Robertson, "Custer State Park Highways," 136.
 Julin, "Public Enterprise," 166-172.

³⁷ Western History Research, "National Park Service Rocky Mountain Regional Office Historic Buildings and Structures Inventory Form: Pig Tail Bridge, HS-98" (1993), 3; Scurr interview with Johnson; Julin, "'A Feeling Almost Beyond Description," 89-90,

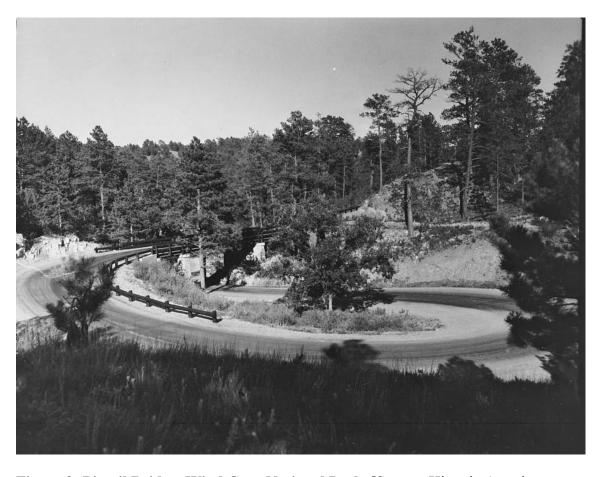


Figure 9: Pigtail Bridge, Wind Cave National Park. [Source: Historic American Engineering Record (HAER), National Park Service, U.S. Department of the Interior, "Pigtail Bridge," HAER No. SD-54 (2000), Image 54-6.]

Composed of a single straight span on a post and lintel structure with a steep spiraling section of road, the Pigtail Bridge is a relatively simple design. Unlike the three other pigtail bridges in Custer State Park, it does not have a long curving deck or a complex superstructure. Yet all of the bridges share the same rustic design that incorporated dark stained pine logs and locally quarried stone. Like the routing and construction of the scenic roadways, all were built to harmonize with the surrounding landscapes. In keeping with many other elements of Norbeck's "scenic design," the pigtail bridges also draw attention to themselves. Even as they move automobile tourists through a scenic landscape, they add a sense of wonder and whimsy to the experience. Moreover, like many of the tight curves, sharp drops, and steep climbs along the roads, the pigtail bridges require travelers to slow down and take in the scenery.³⁸

Period of Significance

In the National Register of Historic Places nomination for the Pigtail Bridge, the Period of Significance is listed as 1930-1945. The specific Historic Contexts are identified as follows: "Recreation and Tourism in the Black Hills and Wind Cave, 1890-1945; Development and Administration of Wind Cave National Park, 1903-1945; NPS Rustic Architecture and Public Works Construction, 1933-1942." The Wind Cave National Park Cultural Landscape Report from 2005 echoes these same criteria, and lists the period of significance for a possible historic linear corridor designation as ca. 1910-1941.⁴⁰ The beginning date corresponds with the period when national park officials first sought to develop roads within the original boundaries of the national park that could accommodate automobiles. The end date relates to the completion of Civilian Conservation work in Wind Cave National Park, Harney National Forest, and Custer State Park, some of which involved maintenance and road surface improvements on SD 87 as well as the addition of steel reinforcement to the Pigtail Bridge in 1940.

While these chronological parameters certainly correspond to significant periods in the history of SD 87, they need to be refined. The initial period of significance could be pushed back to 1903 with the establishment of Wind Cave National Park or 1890 when Wind Cave was first developed as a tourist site. It could also be pushed forward to ca. 1913, when the Wind Cave National Game Preserve was established and auto touring beyond the cave became a popular leisure activity, or to ca. 1919 when a scenic road system was first developed in the Black Hills. Since SD 87 terminated at the northern boundary of Wind Cave National Park, and the project was initiated by the State of South Dakota, this later date may be appropriate. Other significant dates worth noting are 1931, when the joint boundaries of the national park and game preserve were expanded by 1,297 acres to include parts of the Beaver Creek Canyon area around the Norbeck Dam

⁴⁰ Milner Associates et al, Wind Cave National Park: Cultural Landscape Report, 4-44, 4-49.

³⁸ On rustic design in national and state parks, see Ethan Carr, Wilderness by Design: Landscape Architecture and the National Park Service (Lincoln: University of Nebraska Press, 1998), 131-136; and Albert H. Good, Park Structures and Facilities (Washington, D.C.: Government Printing Office, 1935), 3-

³⁹ Western History Research, "Pig Tail Bridge, HS-98" (1993), 3.

area and to the east. In 1935, with the incorporation of the game preserve into the national park, this area became the exclusive purview of the national park.

In 1946, when the national park was expanded to the southern boundary of Custer State Park, the Beaver Creek Bridge, the Pigtail Bridge, and the stretch of highway through Reaves Gulch became part of Wind Cave National Park. While this date does not correspond to a beginning or ending date in the period of significance for SD 87, it marks an important transition. From the late 1940s onward, the management and interpretation of the surface environment became an important focus of park administration. The scenic SD 87 corridor was a very important emphasis within this new management regime, in large part because it was the part of the park beyond the cave and headquarters area that was most utilized by visitors. The nature of national park management, which eschewed activities like the feeding of burros or the jeep tours up to Harney Peak that occurred in Custer State Park, also marked an important distinction that had not previously existed between this southern stretch of SD 87 and the network of scenic roads to the north.

It would be under National Park Service administration that SD 87 also underwent some minor but noteworthy physical changes during the early years of Mission 66. This ten-year program, which began in 1956, involved a number of comprehensive road building and facilities development projects that would make the National Park Service better able to accommodate growing numbers of automobile tourists by the time the agency celebrated its fiftieth anniversary in 1966. The Mission 66 projects at Wind Cave were all relatively minor, and they had almost no effect on the historical characteristics of SD 87 beyond a new asphalt surface, a few suble realignments, and the placement of some interpretive waysides. The most significant construction project in the immediate vicinity of SD 87 came in 1957 when the National Park Service built a new road spur, parking area and trail in the late 1950s for access to the Rankin Ridge Lookout Tower. The tower itself had been erected on Rankin Ridge, but the funding and authorization for that project did not occur under Mission 66. All of the other work along the SD 87 corridor was related to the program, and was essentially completed by 1960. Since little changed along the highway in subsequent decades, and the Mission 66 era projects did not undermine the historic integrity of the SD 87 corridor, 1913 to 1960 probably marks the appropriate parameters for the period of significance of SD 87 within Wind Cave National Park. 41

Historic Features and Integrity

In the decades preceding the construction of SD 87, the road corridor was little utilized except near its northern and southern termini. On the north there were four

⁴¹ National Park Service, "Mission 66 for Wind Cave National Park," n.d., and National Park Service, "Master Plan Development Outline, Wind Cave National Park, South Dakota, Interpretation," November 1957; both in Wind Cave National Park Library. Also see HAER, "Wind Cave Roads & Bridges," 50-52. For Mission 66 generally, see Sarah Allaback, *Mission 66 Visitor Centers: The History of a Building Type* (Washington, D.C.: National Park Service, 2000); and Ethan Carr, *Mission 66: Modernism and the National Park Dilemma* (Amherst: University of Massachusetts Press, 2007).

homestead claims that overlapped with portions of the road corridor where it makes a northeasterly bend around Rankin Ridge and then turns due north into Custer State Park. One of these properties did become directly connected to SD 87 in the 1930s. Laura McKirahan purchased approximately seven acres of land in 1936 along a section of SD 87 that made an almost 90 degree turn from south to east before heading into Custer State Park. Over time, McKirahan's property included two storage sheds, an abandoned farmhouse used as a barn, another barn, a chicken coop, two outhouses, a cistern, and a three-room cottage. While these structures were not unlike her nearest neighbors in that part of Custer County, her property also included "a gasoline pump with underground tank" that would have served automobile tourists and some local residents. As a County Auditor noted in 1947, the "Dwelling and Filling Station" was the primary basis of McKirahan's livelihood and constituted more than 80% of the property's entire tax evaluation.

The McKirahan property lay within the boundaries of Wind Cave National Park after its expansion in 1946. However, park officials recommended against any quick acquisition of the property. Noting that "Miss McKirahan is past seventy years old and desires to reside [on her property] the rest of her life," they worried that condemnation would engender "bad feelings from all local residents." The property was ultimately acquired in November 1954 through direct purchase from McKirahan for \$2850, with apparently no bad feelings among the interested parties or the local community. In accordance with the policy to "eliminate non-Federal lands within [the expansion area] and obliterate old, unsightly improvements," the property was soon cleared. "All buildings were razed and disposed of except the 3 room cottage which was advertised and sold to the highest bidder for \$40.00 Gas pump and gas tank salvaged for future use by government." As part of a construction and surfacing project along stretches of SD 87, the sharp bend around the former McKirahan property was realigned in 1955 "across acreage where former buildings were located."⁴⁶ With completion of the highway project. the area was "seeded and restored to natural grasslands at farmstead site" and, within a few years, all visual traces of the McKirahan property had effectively disappeared. The same was true of all former developments along the entire SD 87 corridor. Except for the graveled roadbed of County Road 391, which follows a grade that predated the construction of SD 87, there are no signs of habitation or land use from before 1930.

On the southern end of the road corridor, near the junction with US 385, the landscape still shows some physical traces of the former Game Preserve Headquarters and the animal corrals that were constructed for managing bison, elk and pronghorn.

⁴⁵ Land Ownership Record" (January 1956).

⁴² National Park Service, "Land Ownership Record: South Dakota, Custer County, Tract No. 22, Deed No. 47, Wind Cave National Park" (January 1956), RG 79, General Files 1952-1963, L1429 "Land Use Records: WCNP," National Archives—Central Plains Region, Kansas City, KS.

⁴³ National Park Service, "Tract Record and Valuation Data of Land to be Acquired: South Dakota, Custer County, Tract No. 22, Deed No. 47, Winc Cave National Park" (December 1948), RG 79, General Files 1952-1963, L1429 "Land Use Records: WCNP," National Archives—Central Plains Region, Kansas City, KS.

⁴⁴ Ibid.

⁴⁶ Quote is from *ibid*.; also see HAER, "Wind Cave Roads & Bridges," 42.

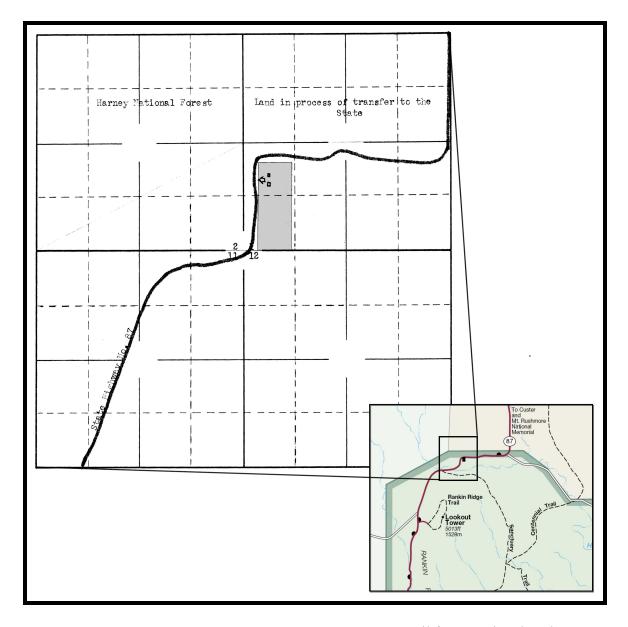


Figure 10: Location of McKirahan Property. [Source: Detail from National Park Service, "Land to Be Acquired: South Dakota, Custer County, Tract No. 22, Deed No. 47, Wind Cave National Park" (January 1956), RG 79, General Files 1952-1963, L1429 "Land Use Records: WCNP," National Archives—Central Plains Region, Kansas City, KS.]

These were altered and partly dismantled through the 1930s and 1940s, and demolished in 1959. The site must certainly contain archeological evidence from its use by the U.S. Biological Survey and the National Park Service, as well as from the ranch that had been established on the site by J.C. West in the early 1900s. Except for a few exotic plants and small structural elements that remain from its prior use, the area has largely been restored to the range conditions that existed in the nineteenth century. Because the routing of SD 87 was directed away from the Game Preserve Headquarters area in 1928, in large part to separate automobile tourists from the unsightly structures, the absence of these buildings does not detract from the original purpose of the highway. They are nevertheless integral to the history of the national park and are in close enough proximity to Norbeck Dam and SD 87 that they should be viewed as historic resources within any specially designated historic linear corridor. The Beaver Creek Rock Shelter, which is listed on the National Register of Historic Places and shows evidence of human habitation and use dating back to 6,700 BP, also lies within the general vicinity of the road corridor. A designated historic district along the SD 87 corridor might also include the site, but doing so would not add any additional statutory protections to this important resource.

The main historical feature of the SD 87 corridor is the road itself, as well as the Beaver Creek Bridge and the Pigtail Bridge. Because the grading of the highway reflected the technological possibilities of the automobile, and followed a scenic rather than a utilitarian route, it did not traverse any pre-existing roads, habitations, or use areas of historic significance outside of the sites just noted above. The roadway was something entirely new and different for the area, and was constructed to both satisfy and define a rapidly growing interest in scenic automobile tourism. This context shaped the route and appearance of the road, and largely defines its historical significance. All modifications to the historic roadway have simply followed the precepts of its original construction; namely, to provide for car-based tourism in the Black Hills.

Since its initial construction, modifications to SD 87 have been minor. Following the expansion of Wind Cave National Park in 1946, which occurred at the beginning of a new post-World War II boom in automobile tourism and outdoor recreation, the national park instituted a series of road improvements along the scenic highway. Most of these involved the installation of drainage culverts in flood or erosion prone areas, the grading of road shoulders, resurfacing the oiled gravel road with asphalt, and the painting of lane and shoulder striping. Short sections of road within Reaves Gulch were re-graded and rerouted, largely to improve drainage along the road. Scenic overlooks and roadside pullouts, which were generally bounded by low curbs or bollards, were also added. The construction of the park's first roadside interpretive exhibit occurred in 1955 with the Norbeck Prairie Dog Town pullout at the junction of US 385 and SD 87. This became a model feature of the development of the park's Mission 66 interpretation program. Six additional interpretive features were developed along SD 87. Located at designated pullout sites, these employed large rustic timber signs with text and diagrams that introduced visitors to the geology and ecology of the area laid out before them. New trails and trailheads were also developed within and near the vicinity of the road corridor, including the parking area and short interpretive trail to the Rankin Ridge Lookout

Tower. These features added to the recreational activities in the national park and provided visitors with opportunities to leave their cars for various lengths of time.⁴⁷

Like Reaves Gulch, the Pigtail Bridge also underwent some modifications after 1930. In 1940, with the labor of a Civilian Conservation Corps crew, the timber-beam superstructure was replaced with 15-inch steel "I" beams. In 1970, the decking on the 76foot span was replaced with laminated pine boards and overlaid with asphalt. While these modifications extended the useful life of the structure, they did not noticeably alter its historical characteristics. The timber and stone superstructure, the wood railings, and the heavy timber facing along the exterior edge of the deck, all remained intact. 48 The nature of these modifications were in sharp contrast to the structural changes that occurred with the pigtail bridges in Custer State Park during the 1950s, which were so extensive that they were deemed ineligible for listing on the National Register. 49 In 2006 the Pigtail Bridge in Wind Cave National Park was strengthened and the wooden guardrails were replaced and extended along the abutments. All of this work was done in a way that matched the structure's original design lines, however, and did not affect the bridge's historic integrity as described in the National Register of Historic Places. 50 The reinforced concrete Beaver Creek Bridge also underwent extensive rehabilitation in 2006 that included a full replacement of the bridge decking as well as work on the abutments. Both bridge projects also included safety upgrades that involved the extension, repair, or replacement of railings, as well as improvements in the drainage of water runoff. While all of this work improved the safety and long term use of both bridges, it was done in a manner that retained their "character-defining historic features." ⁵¹

In following the National Register guidelines for evaluating historic integrity in terms of location, design, setting, materials, workmanship, feeling, and association, the authors of the *Wind Cave National Park: Cultural Landscape Report* developed the following categories of assessment: Natural Systems and Features, Spatial Organization, Land Use, Circulation, Topography, Vegetation, Buildings and Structures, Views and Vistas, and Small Scale Features. In all but one of these categories, the authors conclude that the SD 87 road corridor retains "high integrity." The Natural Systems and Features of the historic landscape "remain principally unaltered," "[m]uch of the spatial organization that characterized the landscape during the period of significance survives today," land use related to "recreation, wildlife viewing, wildlife management, and motoring touring" are unchanged, and with minor exceptions related to roadwork and ecological dynamics, the views and vistas, topography, and vegetation all remain as they were at the time the road was completed. ⁵²

⁴⁷ HAER, "Wind Cave Roads & Bridges," 40-43.

⁴⁹ Western History Research, "Historic Buildings and Structures Inventory Form: Pig Tail Bridge, HS-98" (1993). 2-3.

⁴⁸ HAER, "Pigtail Bridge," 3-4

^{(1993). 2-3. &}lt;sup>50</sup> Pig Tail Bridge (Structure - #95000344) was added to the National Register in 1995. Its qualities are detailed in *Ibid*.

⁵¹ Quote is from National Park Service "Project to Rehabilitate Highway 87 and Visitor Center Access Roads, Environmental Assessment: Wind Cave National Park, South Dakota" (December 2005), 17; the full Environmental Assessment details the work on Pigtail Bridge and Beaver Creek Bridge.

⁵² John Milner Associates et al, Wind Cave National Park: Cultural Landscape Report, 4-36—4-45.

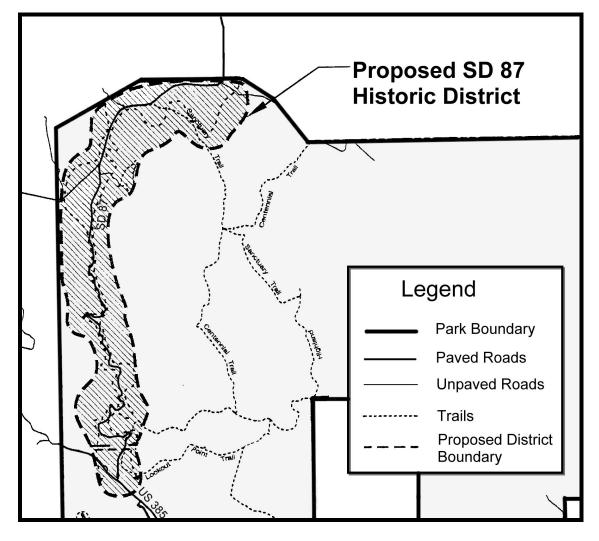


Figure 11: Proposed SD 87 Linear Historic Road Corridor. [Source: Closely adapted from John Milner Associates et al, *Wind Cave National Park: Cultural Landscape Report* (Omaha: National Park Service, Midwest Region, 2005).]

Aside from the modification and ultimate demolition of the Game Preserve Headquarters, "few changes have occurred within the corridor regarding structures." Consequently, it is only in the vicinity of the former Game Preserve Headquarters and at the junction of US 385 and SD 87, where construction along the federal highway has modified the intersection, that the authors of the Wind Cave National Park Cultural Landscape Report define the historic integrity of the SD 87 corridor as medium. The authors also note that many small-scale features, such as cattle crossings and directional signs, no longer remain from the 1930s or 1940s. However, their absence does not detract from historic integrity of the road corridor. The current study concurs with all of these assessments with just one modification. The authors of the Wind Cave National Park Cultural Landscape Report note that the addition of "wayside exhibits, stone curbing," bollards, and signs" associated with post World War II and Mission 66 developments likely contributed to the loss of earlier small-scale features. 53 However, these changes are very minor and should be considered as continuations of the road's original purpose and design. In its current form and condition, the SD 87 road corridor is a highly significant component of Wind Cave National Park and probably retains the most historic integrity of all the scenic roadways within Custer State Park.

⁵³ Ibid.

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